Instructional Space Project Request
2013-15 Biennium

Agency	Institution	Building No.	Building Name
University of Wisconsin	River Falls	285-0J-0010	Centennial Science Hall

Location ID 266 Centennial Science Hall

Project Title Centennial Science Chemistry Laboratory 266

Project Intent

The project intent is to modernize chemistry lab CSH 266. The renovated laboratory will support group-based chemistry lab courses and also allow for the implementation of small scale active learning pedagogies. The intent is also to make this laboratory safer and more comfortable for students, as well as remediate known problems with handicapped accessibility.

Project Description

This project essentially guts and replaces all interior finishes, fixtures, furniture and equipment. Work includes:

- Replacement of lab benches (students in seats in groups of 4)
- New lighting
- Painting walls
- New floor tile
- New plumbing to lab benches
- Revise HVAC ducts and diffusers
- Installation of display screens and white boards on walls
- Installation of network cabling allowing student use of laptops for data acquisition and lab results projection

(Note: existing fume hoods (4) are in good condition and will not be affected by this project.)

Project Justification

This project is based on nationally-recognized models for designing active learning environments, including SCALE-UP (http://scaleup.ncsu.edu) and Active Learning Classroom (http://www.classroom.umn.edu/projects/alc.html).

The renovated laboratory will enable a change from a faculty-centered to a student-centered pedagogy using a distributed active-learning system. Students will work together in groups of four (or the entire class) to design experiments and gather data. They will be able to display their data, ask questions, or propose hypotheses on large screen wall-mounted monitors, either for small group (internal) or class discussion.

Replacement of the existing lab benches will allow students to sit. Students currently stand in the laboratory for three hours per lab session, working at benches that are too high for many. This leads to student dissatisfaction and discomfort with the chemistry laboratories, and discourages taking time for experimental design, planning, and analysis. The current laboratory configuration is poorly suited for smaller students (especially women), with benches that are too high for comfortable standing work. Sightlines are obstructed by utility chases (electronics, water/gas, and drain vents). The laboratory is not ADA compliant – we have had difficulty meeting the needs of students constrained by wheelchairs or hearing-impaired students who are prevented from lip reading.

Our assessment shows that a significant percentage of STEM students who start in chemistry classes do not continue. We hope that these changes will increase student satisfaction with lab courses and improve student retention and progression in STEM.

Assessment of teaching/learning changes (both how students learn differently and how faculty teach differently) will be used to inform design and justification of other new and/or renovated laboratory facilities. We will be guided in our assessment by research at the University of Minnesota used to develop and optimize the ALC model for lecture courses. We will assess how the changes affect student learning and retention. This information will be used to modify the design of renovations of other chemistry laboratories in the future, including renovations of other Centennial Science Hall laboratories and the design of and justification for the future STEM (Science, Technology, Engineering and Mathematics) building.

Project Budget

Construction Cost:	
A/E Design Fees:	
Other Fees:	
DFD Mgmt Fees:	
Contingency:	
Movable Equipment:	
TOTAL:	**$ 313,000**

Funding Source

General Fund Supported Borrowing	
Institutional Funds (GPR)	
Institutional Funds (PR)	
Gifts	
Grants	
Other	
TOTAL:	**$ 313,000**

Flooring and Furniture

	Tiered	FS	FT	MT	TC
Existing Conditions:	☐	☐	☒	☐	☐
Proposed Conditions:	☐	☐	☒	☐	☐

Tiered = tiered flooring FS = Fixed Seating FT = Fixed Tables MT = Movable Tables TC = Tablet Arm Chairs

Seating and Space

	Existing		Proposed	
Square Feet:	1,023	ASF	1023	ASF
Seating Capacity:	24	Stations	24	Stations
Square Feet per Station:	43	ASF/Station	43	ASF/Station

Technology

	Existing	Proposed
Technology Level:	Level 1	Level 3/AL

1 = Level 1
2 = Level 2
3 = Level 3
3+ = Level 3+
AL = Active Learning
DL = Distance Learning

Audio-Visual Consultant Requirements

An audio-visual consultant is required for this project. The consultant will work with faculty to determine final needs and configure a suitable system. The consultant will specify equipment components that will integrate seamlessly. Where possible, the individual components will purchased by UWRF purchasing using existing state purchasing contracts. Installation will be provided through an allowance by a specialty contractor.

☒ An audio-visual consultant is required.

Instructional Space Project Request
2013-15 Biennium

Project Schedule

Bid Opening:	01/2015
Construction Start:	05/2015
Substantial Completion:	08/2015

Project Contact

Contact Name:	Dale Braun
Email:	Dale.k.braun@uwrf.edu
Telephone:	715-307-1568

Project Considerations	**Y**	**N**
1. Are hazardous materials involved? If yes, what materials are involved and how will they be handled?	☐	☒
Hazardous materials abatement is not anticipated on this project. Comprehensive environmental survey inventory data is available on Wisconsin's Asbestos & Lead Management System (WALMS) <http://walms.doa.state.wi.us/>.		
2. Will the project impact the utility systems in the building and cause disruptions? If yes, to what extent?	☒	☐
Short term periodic shut downs in the north zone of the building may be required.		
3. Will the project impact the heating plant, primary electrical system, or utility capacities supplying the building, and/or within the building? If yes, to what extent?	☐	☒
4. Will the construction work be limited to a particular season or window of opportunity? If yes, explain the limitations and provide proposed resolution.	☒	☐
Construction is limited to a period from mid-May until mid-August due to lab scheduling.		